# CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

**NABL** - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377


Job No.: CTCE/BBMP/W.No.13/JKS/CSR-05/035b/SAND-Gradation/2016-17 : 12.05.2016

## TEST REPORT ON DETERMINATION GRADATION OF FINE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** Shetyhalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. J.K. Shukesh,**
#3/42, 5th Cross, Nadini Layout, Bangalore – 96.

*** Name of Work** : Construction of RCC drain in 3rd and 5th cross south side at Prashantha Nagara in Ward No.13, Shetyhalli Sub Division, BBMP, Bangalore.

**Reference** : AEE/SSD/QC/21/2016-17 Dated: 10.05.2016

**Technical Reference** : IS : 2386 Part 1 - 1963 RA-2007

**Sample ID** : Fine Aggregates

**Sample Received on** : 10.05.2016

**Date of Testing** : 12.05.2016

Total Wt. of Aggregates in gms **1000**

| Is Sieve Size in mm | Cumulative Weight Passing in % | Specific Limits as per IS 383-1970 (RA- 2007) | | | |
|---|---|---|---|---|---|
| | | Zone-I | Zone-II | Zone-III | Zone-IV |
| 10 | 100 | 100 | 100 | 100 | 100 |
| 4.75 | 94.80 | 90-100 | 90-100 | 90-100 | 95-100 |
| 2.36 | 76.80 | 60-95 | 75-100 | 85-100 | 95-100 |
| 1.18 | 57.00 | 30-70 | 55-90 | 75-100 | 90-100 |
| 600 Micron | 28.50 | 15-34 | 35-59 | 60-79 | 80-100 |
| 300 Micron | 16.00 | 5-20 | 8-30 | 12-40 | 15-50 |
| 150 Micron | 6.00 | 0-10 | 0-10 | 0-10 | 0-15 |

* Information is furnished by the Customer/Representative

**Remarks :** This sample is under Zone-I specific limits.

Note:

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2. The results indicated above are based on the tests carried out on the samples received in the laboratory
3. Any Query regarding the report must be reported within 30 days from the date of testing.

*********

**VISHWANATH. I.A.**
**Chief Executive Officer**

AE-13

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಶೆಟ್ಟಿಹಳ್ಳಿ ಉಪವಿಭಾಗ, ದಾಸರಹಳ್ಳಿ ವಲಯ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
ಎಸ್.ಎಂ. ಕೃಷ್ಣನಗರ, ಬೆಂಗಳೂರು


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# CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

**NABL** - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377


Job No.: CTCE/BBMP/W.No.13/JKS/CSR-05/035b/CEMENT/2016-17 Date: 12.05.2016

## TEST REPORT ON CEMENT

| | | |
|---|---|---|
| *** CUSTOMER** | : | **Asst. Executive Engineer,** Shetyhalli Sub Division, BBMP, Bangalore. |
| ***AGENCY** | : | **Mr. J.K. Shukesh,** #3/42, 5th Cross, Nadini Layout, Bangalore – 96. |
| ***NAME OF THE WORK** | : | Construction of RCC drain in 3rd and 5th cross south side at Prashantha Nagara in Ward No.13, Shetyhalli Sub Division, BBMP, Bangalore. |
| ***REFERENCE** | : | AEE/SSD/QC/21/2016-17 Dated: 10.05.2016 |
| **SAMPLE ID** | : | Cement |
| **SAMPLE RECEIVED ON** | : | 10.05.2016 |
| **PERIOD OF TESTING** | : | 10.05.2016 to 12.05.2016 |

CIVIL ENGINEERING TESTING LABORATORY

The results of the tests conducted on the cement sample are as follows:

| Sl. No | Descriptions | Test Method as per IS | Test Result | Requirements as per IS: 8112-2013 |
|---|---|---|---|---|
| 1 | Standard Consistency | IS-4031 (Part -4) 1988(RA-2009) | 30.00 % | - |
| 2 | a) Initial Setting Time | IS-4031 (Part -5) 1988(RA-2009) | 150 Minutes | Not Less than 30 Minutes |
| | b) Final Setting Time | IS-4031 (Part -5) 1988(RA-2009) | 490 Minutes | Not More than 600 Minutes |
| 3 | Soundness by Le Chartlier Method | IS-4031 (Part-3) 1988(RA-2009) | 1 mm | Not more than 10mm |

*Information is furnished by the Customer/Representative.

Civil-Tech Consultants & Engineers Bangalore

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# CIVIL-TECH CONSULTANTS AND ENGINEERS

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**NABL** - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377


Job No.: CTCE/BBMP/W.No.13/JKS/CSR-05/035b/SAND-Gradation/2016-17 : 12.05.2016

## TEST REPORT ON DETERMINATION GRADATION OF FINE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** Shetyhalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. J.K. Shukesh,**
#3/42, 5th Cross, Nadini Layout, Bangalore – 96.

*** Name of Work** : Construction of RCC drain in 3rd and 5th cross south side at Prashantha Nagara in Ward No.13, Shetyhalli Sub Division, BBMP, Bangalore.

**Reference** : AEE/SSD/QC/21/2016-17 Dated: 10.05.2016

**Technical Reference** : IS : 2386 Part 1 - 1963 RA-2007

**Sample ID** : Fine Aggregates

**Sample Received on** : 10.05.2016

**Date of Testing** : 12.05.2016

Total Wt. of Aggregates in gms **1000**

| Is Sieve Size in mm | Cumulative Weight Passing in % | Specific Limits as per IS 383-1970 (RA- 2007) | | | |
|---|---|---|---|---|---|
| | | Zone-I | Zone-II | Zone-III | Zone-IV |
| 10 | 100 | 100 | 100 | 100 | 100 |
| 4.75 | 94.80 | 90-100 | 90-100 | 90-100 | 95-100 |
| 2.36 | 76.80 | 60-95 | 75-100 | 85-100 | 95-100 |
| 1.18 | 57.00 | 30-70 | 55-90 | 75-100 | 90-100 |
| 600 Micron | 28.50 | 15-34 | 35-59 | 60-79 | 80-100 |
| 300 Micron | 16.00 | 5-20 | 8-30 | 12-40 | 15-50 |
| 150 Micron | 6.00 | 0-10 | 0-10 | 0-10 | 0-15 |

* Information is furnished by the Customer/Representative

**Remarks :** This sample is under Zone-I specific limits.

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# CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

**NABL** - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377


Job No.: CTCE/BBMP/W.No.13/JKS/CSR-05/035b/CEMENT/2016-17 Date: 12.05.2016

## TEST REPORT ON CEMENT

| | | |
|---|---|---|
| * CUSTOMER | : | **Asst. Executive Engineer,** Shetyhalli Sub Division, BBMP, Bangalore. |
| *AGENCY | : | **Mr. J.K. Shukesh,** #3/42, 5th Cross, Nadini Layout, Bangalore – 96. |
| *NAME OF THE WORK | : | Construction of RCC drain in 3rd and 5th cross south side at Prashantha Nagara in Ward No.13, Shetyhalli Sub Division, BBMP, Bangalore. |
| *REFERENCE | : | AEE/SSD/QC/21/2016-17 Dated: 10.05.2016 |
| SAMPLE ID | : | Cement |
| SAMPLE RECEIVED ON | : | 10.05.2016 |
| PERIOD OF TESTING | : | 10.05.2016 to 12.05.2016 |

The results of the tests conducted on the cement sample are as follows:

| Sl. No | Descriptions | Test Method as per IS | Test Result | Requirements as per IS: 8112-2013 |
|---|---|---|---|---|
| 1 | Standard Consistency | IS-4031 (Part -4) 1988(RA-2009) | 30.00 % | - |
| 2 | a) Initial Setting Time | IS-4031 (Part -5) 1988(RA-2009) | 150 Minutes | Not Less than 30 Minutes |
| | b) Final Setting Time | IS-4031 (Part -5) 1988(RA-2009) | 490 Minutes | Not More than 600 Minutes |
| 3 | Soundness by Le Chartlier Method | IS-4031 (Part-3) 1988(RA-2009) | 1 mm | Not more than 10mm |

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# CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

**NABL** - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED


Job No.: CTCE/BBMP/W.No.13/JKS/STEEL/2016-17 14.05.2016

## TEST REPORT ON REINFORCEMENT STEEL

| | | |
|---|---|---|
| Customer | : | **Asst. Executive Engineer**, Shetyhalli Sub Division, BBMP, Bangalore. |
| Agency | : | **Mr. J.K. Shukesh,** #3/42, 5th Cross, Nadini Layout, Bangalore – 96. |
| Name of the Work | : | Construction of RCC drain in 3rd and 5th cross south side at Prashantha Nagara in Ward No.13, Shetyhalli Sub Division, BBMP, Bangalore. |
| Reference | : | AEE/SSD/QC/21/2016-17 Dated: 10.05.2016 |
| Date of Test | : | 14.05.2016 |
| Technical Reference | : | IS: 1786-2008 |

| Sl. No | Nominal size (dia) (mm) | Mass per metre (Kg/mtr) | TENSILE STRENGTH | | | Bend Test | Rebend Test |
|---|---|---|---|---|---|---|---|
| | | | 0.20% proof stress/Yield stress N/mm$^2$ | Tensile strength (Ultimate stress) N/mm$^2$ | Elongation percent gauge length | | |
| 1 | 10 | 0.62 | 514 | 557 | 13.30 | O.K | O.K |

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4th Block, Shakthiganapathinagara,
Basaveshwaranagar,
Bangalore-560079.

AE - 13

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ಶೆಟ್ಟಿಹಳ್ಳಿ ಉಪವಿಭಾಗ, ದಾಸರಹಳ್ಳಿ ವಲಯ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
ಎಸ್ ಎಂ ರಸ್ತೆ, ಶ್ರೀರಾಂಪುರ, ಬೆಂಗಳೂರು

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JAS-ANZ BSCIC ISO 9001 REGISTERED


Job No.: CTCE/BBMP/W.No.13/JKS/STEEL/2016-17 14.05.2016

## TEST REPORT ON REINFORCEMENT STEEL

| | | |
|---|---|---|
| Customer | : | **Asst. Executive Engineer**, Shetyhalli Sub Division, BBMP, Bangalore. |
| Agency | : | **Mr. J.K. Shukesh,** #3/42, 5th Cross, Nadini Layout, Bangalore – 96. |
| Name of the Work | : | Construction of RCC drain in 3rd and 5th cross south side at Prashantha Nagara in Ward No.13, Shetyhalli Sub Division, BBMP, Bangalore. |
| Reference | : | AEE/SSD/QC/21/2016-17 Dated: 10.05.2016 |
| Date of Test | : | 14.05.2016 |
| Technical Reference | : | IS: 1786-2008 |

| Sl. No | Nominal size (dia) (mm) | Mass per metre (Kg/mtr) | TENSILE STRENGTH | | | Bend Test | Rebend Test |
|---|---|---|---|---|---|---|---|
| | | | 0.20% proof stress/Yield stress $N/mm^2$ | Tensile strength (Ultimate stress) $N/mm^2$ | Elongation percent gauge length | | |
| 1 | 8 | 0.40 | 510 | 552 | 13.10 | O.K | O.K |

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T-2377

Job No.: CTCE/BBMP/W.No.13/JKS/CSR-05/035b/AGG/GR/2016-17 : 12.05.2016

## TEST REPORT ON DETERMINATION GRADATION OF COARSE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** Shetyhalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. J.K. Shukesh,**
#3/42, 5th Cross, Nadini Layout, Bangalore – 96.

*** Name of Work** : Construction of RCC drain in 3rd and 5th cross south side at Prashantha Nagara in Ward No.13, Shetyhalli Sub Division, BBMP, Bangalore.

**Reference** : AEE/SSD/QC/21/2016-17 Dated: 10.05.2016

**Technical Reference** : IS : 2386 Part 1 -1963 RA-2007

**Sample ID** : Coarse Aggregates (40mm)

**Sample Received on** : 10.05.2016

**Date of Testing** : 12.05.2016

Total Wt. of Aggregates in gms= **7000**

| Is Sieve Size in mm | Cumulative Weight Passing in % | Specific Limits as per IS 383-1970 (RA- 2007) | |
|---|---|---|---|
| | | Graded | Single Sized |
| 80 | 100 | 100 | - |
| 63 | 100 | - | 100 |
| 40 | 97.43 | 95-100 | 85-100 |
| 20 | 33.14 | 30-70 | 0-20 |
| 10 | 15.29 | 10-35 | 0-5 |
| 4.75 | 3.14 | 0-5 | - |

* Information is furnished by the Customer/Representative

**Remarks :** This sample is under Graded specific limits.

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T-2377


Job No.: CTCE/BBMP/W.No.13/JKS/CSR-05/035b/Pre Cast Slab/2016-17 25.05.2016

## TEST REPORT ON CONCRETE CORE (PRE CAST SLAB)

*** Name of Customer** : **Asst. Executive Engineer,** Shetyhalli Sub Division, BBMP, Bangalore.

*** Name of Agency** : **Mr. J.K. Shukesh,**
#3/42, 5th Cross, Nadini Layout, Bangalore – 96.

*** Name of work** : Construction of RCC drain in 3rd and 5th cross south side at Prashantha Nagara in Ward No.13, Shetyhalli Sub Division, BBMP, Bangalore.

**Reference** : AEE/SSD/QC/21/2016-17 Dated: 10.05.2016

**Techinical Reference** : IS:516-1959 (Reaffirmed 2008), SP-24:1983.

**Sample ID** : Pre cast slab

**Sample Received on** : 20.05.2016

**Date of Testing** : 25.05.2016

| Sl. No. | Dia of Core D (mm) | Height of Core H (mm) | Core Wt (Kg) | Density of Core (kg / $m^3$) | H / D | Correction factor (Based on H/D) | Failure Load (kN) | Core Strength ( $N/mm^2$) | Correction Factor for the Dia. (Strength of the Core x 1.08) | Corrected Cylinder Compressive Strength ($N/mm^2$) | Equivalent Cube Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 50.00 | 78.00 | 0.384 | 2507.30 | 1.56 | 0.955 | 32.50 | 16.55 | 17.88 | 17.07 | 21.34 |
| 2 | 50.00 | 79.00 | 0.392 | 2527.14 | 1.58 | 0.960 | 33.00 | 16.81 | 18.15 | 17.43 | 21.78 |
| 3 | 50.00 | 80.00 | 0.399 | 2540.11 | 1.60 | 0.965 | 33.80 | 17.21 | 18.59 | 17.94 | 22.43 |

* Information is furnished by the Customer/Representative

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Job No.: CTCE/BBMP/W.No.13/JKS/CSR-05/035b/CUBE/2016-17 15.06.2016

## TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Customer** : **Asst. Executive Engineer,** Shetyhalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. J.K. Shukesh,**
#3/42, 5th Cross, Nadini Layout, Bangalore – 96.

*** Name of the work** : Construction of RCC drain in 3rd and 5th cross south side at Prashantha Nagara in Ward No.13, Shetyhalli Sub Division, BBMP, Bangalore.

*** Reference** : AEE/SSD/QC/21/2016-17 Dated: 10.05.2016

*** Sample ID** : RCC Drain Concrete

**Size of cubes** : 150mmx150mmx150mm

**Cross Sectional Area** : 22500 $mm^2$

**Technical Reference** : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : $M_{20}$

**Compressive Strength as on** : 28th day

**Sample Received on** : 15.06.2016

| Sl.No. | * Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 18.05.2016 | 15.06.2016 | 8.190 | 495.5 | 22.02 |
| 2 | 18.05.2016 | 15.06.2016 | 8.290 | 512.2 | 22.76 |
| 3 | 18.05.2016 | 15.06.2016 | 8.280 | 528.6 | 23.49 |

* Information is furnished by the Customer/Representative

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T-2377


Job No.: CTCE/BBMP/W.No.13/JKS/CSR-05/035b/CUBE/2016-17 15.06.2016

## TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Customer** : **Asst. Executive Engineer,** Shetyhalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. J.K. Shukesh,**
#3/42, 5th Cross, Nadini Layout, Bangalore – 96.

*** Name of the work** : Construction of RCC drain in 3rd and 5th cross south side at Prashantha Nagara in Ward No.13, Shetyhalli Sub Division, BBMP, Bangalore.

*** Reference** : AEE/SSD/QC/21/2016-17 Dated: 10.05.2016

*** Sample ID** : RCC Drain Concrete

**Size of cubes** : 150mmx150mmx150mm

**Cross Sectional Area** : 22500 $mm^2$

**Technical Reference** : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : $M_{20}$

**Compressive Strength as on** : 28th day

**Sample Received on** : 15.06.2016

| Sl.No. | * Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 18.05.2016 | 15.06.2016 | 8.115 | 485.3 | 21.57 |
| 2 | 18.05.2016 | 15.06.2016 | 8.236 | 499.6 | 22.20 |
| 3 | 18.05.2016 | 15.06.2016 | 8.354 | 510.2 | 22.68 |

* Information is furnished by the Customer/Representative

Note:

1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory.
3. Any Query regarding the report must be reported within 30 days from the date of testing.

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**Chief Executive Officer**

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